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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/738,383   | 12/16/2003  | Chickayya Naik       | CISC846             | 7259             |
| 26541  | 7590        | 11/03/2009           |                     |                  |
| Cindy S. Kaplan<br>P.O. BOX 2448<br>SARATOGA, CA 95070 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| NOORISTANY, SULAIMAN                                   |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 2446   |             |                      |                     |                  |
| MAIL DATE  |             | DELIVERY MODE        |                     |                  |
| 11/03/2009   |             | PAPER                |                     |                  |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/738,383

**Applicant(s)**

NAIK ET AL.

**Examiner**

SULAIMAN NOORISTANY

**Art Unit**

2446

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2, 4-6, 8, 12-14, 16, 18-20, 22, 26-28 and 30-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 4-6, 8, 12-14, 16, 18-20, 22, 26-28, 30-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Detailed Action***

This Office Action is response to the application (10/738383) filed on 07/20/2009

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 2, 4-6, 8, 12-14, 16, 18-20, 22, 26-28, 30-36** are rejected under 35 U.S.C.

103(a) as being unpatentable over **Lee** U.S Patent No **US 6879594** in view of **Haggerty** U.S Patent No **US 6331983** further in view of **Ishii** U.S Patent App. No **US 20030065814**.

**Regarding claim 2**, Lee teaches wherein a method for operating a node in a layer 2 network to handle multicast traffic, said method comprising:

receiving at a switch within said layer 2 network, via a first port, a join message for a multicast distribution group (**JOIN request “here same as join message” – col. 1, lines 64 – col. 2, lines 14**);

establishing state information for said multicast distribution group based on said join message, if such state information has not already been established (**accepting the mapping for said single node if no previous bindings exist; and if said previous bindings exist when said subtree is attached to said Multi-Protocol**

**Label Switching tree – col. 11, lines 38-44); and**

adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group (**Fig. 3 -- label mapping – col. 5, lines 27-28**) and;

forwarding said join message an attraction point of said layer 2 network via a spanning tree defined within of said layer 2 network (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65**).

However, Lee is silent in terms of *“receiving multicast traffic addressed to said multicast distribution group”*

Haggerty teaches that it is well known to have system wherein receiving at a switch within said layer 2 network, via a first port, a join message for a multicast distribution group (**receive sender present message to join a multicast group and receive multicast traffic wherein network interface cards which efficiently filter for LAN data link layer (layer 2) addresses (e.g., MAC addresses) mapped from network layer addresses – Fig. 8-20**);

establishing state information for said multicast distribution group based on said join message, if such state information has not already been established (**connection for group exist – Fig. 8-20**);

adding said first port to a port list associated with said state information, said port list being used to select ports for forwarding received multicast traffic of said multicast distribution group (**add receive port to connections – Fig. 8-20**);

forwarding said join message an attraction point of said layer 2 network via a spanning tree defined within of said layer 2 network **(deliver Map message towards sending switch – Fig. 8-20);**

receiving multicast traffic addressed to said multicast distribution group **(Fig. 3 – Mutlicast switch);** and

forwarding said multicast traffic via a multicast distribution tree formed based on said spanning tree **(Fig. 4 – showing a spanning tree distribution of multicast packets within the network)** in order to make the system more efficient for controlling the flow of multicast traffic on a communications network.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee's invention by utilizing a Method and apparatus for establishing connections in a switch-based communications network for multicast traffic. A source receives a multicast packet on an access port from a source host, determines a group address in the multicast packet, and composes and sends a "sender present" message to other switches on its network ports. The receiving switches determine whether a local host wishes to join the group and if so, send a map message back toward the source switch on a predetermined path between the receiving switch and the source switch. A map message may terminate at a switch on the path that already has a connection for this group/source pair, and join into this connection as an additional output port. In this manner, a "signal out, connect back" method is provided for establishing a connection path from the sender to multiple receivers. In addition, multicast traffic can be sent across a switch interface in either direction, providing for

controlled multicast traffic between switch-based networks. As another consequence of its group membership request, the receiving host network interface card starts filtering for the LAN-specific hardware (data-link or MAC layer) addresses associated with the new multicast group address, as taught by Haggerty.

However, Haggerty is silent in term of "*establishing state information at the switch*."

**Ishii** teaches that it is well known to have a system wherein "establishing state information at the switch" (Fig. 19, 23 – "**when the switching section 13 receives a frame from a physical port or bridge port, it can freely establish logical connection between arbitrary bridge port and physical port according to the contents of the port correspondence table T.**" [0019-0126; [00146-0156]]);

adding said first port to a port list associated with said state information, said port list being used to select ports (If values in the Physical Port ID, Bridge ID, and Bridge Port ID fields in Information regarding Opposite Unit in a port correspondence table T corresponding to the physical port ID of a physical port which received the state notification BPDU are not equal to those of Physical Port ID, Original Bridge ID, and Original Bridge Port ID, respectively, in the received state notification BPDU, then step S26 will be performed "here is same as *establishing state information, if such state information has not already been established; and "adding said first port to a port list associated with said state information"* – [0154]) in order to make the system more efficient whereas Bridges are operated at the layer 2 (data link layer) level and relay frames – [0005].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Lee's invention by utilizing a method for Bridges operate at the layer 2 (data link layer) level and relay frames in order to provide a transmission unit which makes effective use of a line to a port blocked in compliance with a spanning tree protocol and improves communication quality. In order to achieve the above object, a transmission unit comprises bridges with bridge ports for communicating at the layer 2 level, physical ports for sending and receiving frames via lines, and an inter-port switching control section including a bridge port state monitoring section for monitoring the blocked or non-blocked state of the bridge ports, a port correspondence table managing section for storing and managing a port correspondence table including the state of the bridge ports and the correspondence between the bridge ports and the physical ports in the unit and the correspondence between bridge ports and physical ports in an opposite unit, as taught by Ishii – [0017].

**Regarding claims 4,** Lee, Haggerty and Ishii together taught the method as in claim 2 above. Haggerty teaches wherein "wherein said join message comprises an IGMP Join message." (IGMP – Fig. 8-20)

**Regarding claim 5,** Lee and Haggerty together taught the method as in claim 2 above. Haggerty further teaches wherein flooding said join message via a spanning tree of said layer 2 network ("**flooded**"– col. 15, lines 20-22).

**Regarding claim 6**, Lee, Haggerty and Ishii together taught the method as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

**Regarding claim 8**, Lee, Haggerty and Ishii together taught the method as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

**Claim 12** list all the same elements of **claim 2**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 12**.

**Claim 13** list all the same elements of **claim 2**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 13**.



**Regarding claim 14**, Lee, Haggerty and Ishii together taught the method as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports via which an attraction point advertisement message was previously received (**Fig. 6 -- The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7, lines 52-65).**

**Claim 16** list all the same elements of **claim 2**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 16**.

**Regarding claim 18**, Lee and Haggerty together taught the method as in claim 2 above. Haggerty further teaches wherein "wherein said join message comprises an IGMP Join message." (**IGMP – Fig. 8-20)**

**Regarding claim 19**, Lee, Haggerty and Ishii together taught the method as in claim 2 above. Wang further teaches wherein flooding said join message via a spanning tree of said layer 2 network ("**flooded**" – **col. 15, lines 20-22).**

**Regarding claim 20**, Lee, Haggerty and Ishii together taught the method as in claim 2 above. Lee further teaches wherein forwarding said join message via one or more ports

via which an attraction point advertisement message was previously received (**Fig. 6 --**  
**The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR**  
**for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7,**  
**lines 52-65).**

**Regarding claim 22**, Lee, Haggerty and Ishii together taught the method as in claim 2  
above. Lee further teaches wherein forwarding said join message via one or more ports  
via which an attraction point advertisement message was previously received (**Fig. 6 --**  
**The Lsm is forwarded towards the root of the MPLS tree, which is the egress LSR**  
**for (mp2p) and the ingress LSR for (p2mp), along the already labeled path – col. 7,**  
**lines 52-65).**

**Claim 26** list all the same elements of **claim 2**, but in computer readable medium rather  
than method form. Therefore, the supporting rationale of the rejection to **claim 2**  
applies equally as well to **claim 26**.

**Claim 27** list all the same elements of **claim 2**, but in computer readable medium rather  
than method form. Therefore, the supporting rationale of the rejection to **claim 2**  
applies equally as well to **claim 27**.

**Claim 28** list all the same elements of **claim 2**, but in computer readable medium rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 28**.

**Claim 30** list all the same elements of **claim 2**, but in apparatus rather than method form. Therefore, the supporting rationale of the rejection to **claim 2** applies equally as well to **claim 30**.

**Claim 31-36** list all the same elements of **claim 2, 4-6, 8**, but in method rather than method form. Therefore, the supporting rationale of the rejection to **claim 2, 4-6, 8** applies equally as well to **claim 31-36**.

### ***Response to Amendment***

Applicant's arguments with respect to claim(s) **2, 4-6, 8, 12-14, 16, 18-20, 22, 26-28, 30-36** have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is 571-270-1929. The examiner can normally be reached on Monday Through Friday 7:30 am to 5:00 pm EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery Pwu can be reached on 571-272-6798. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**Sulaiman Nooristany      10/26/2009**

**/Jeffrey Pwu/**

**Supervisory Patent Examiner, Art Unit 2446**